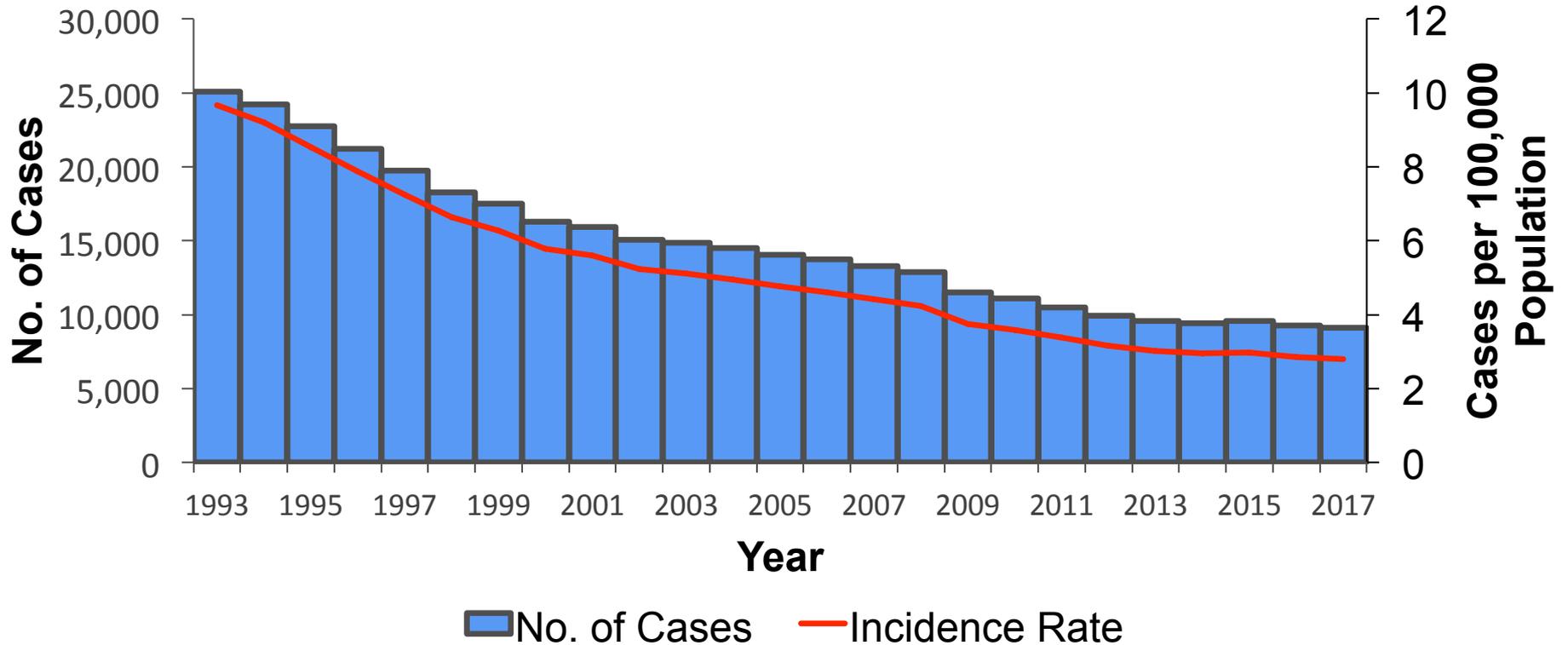




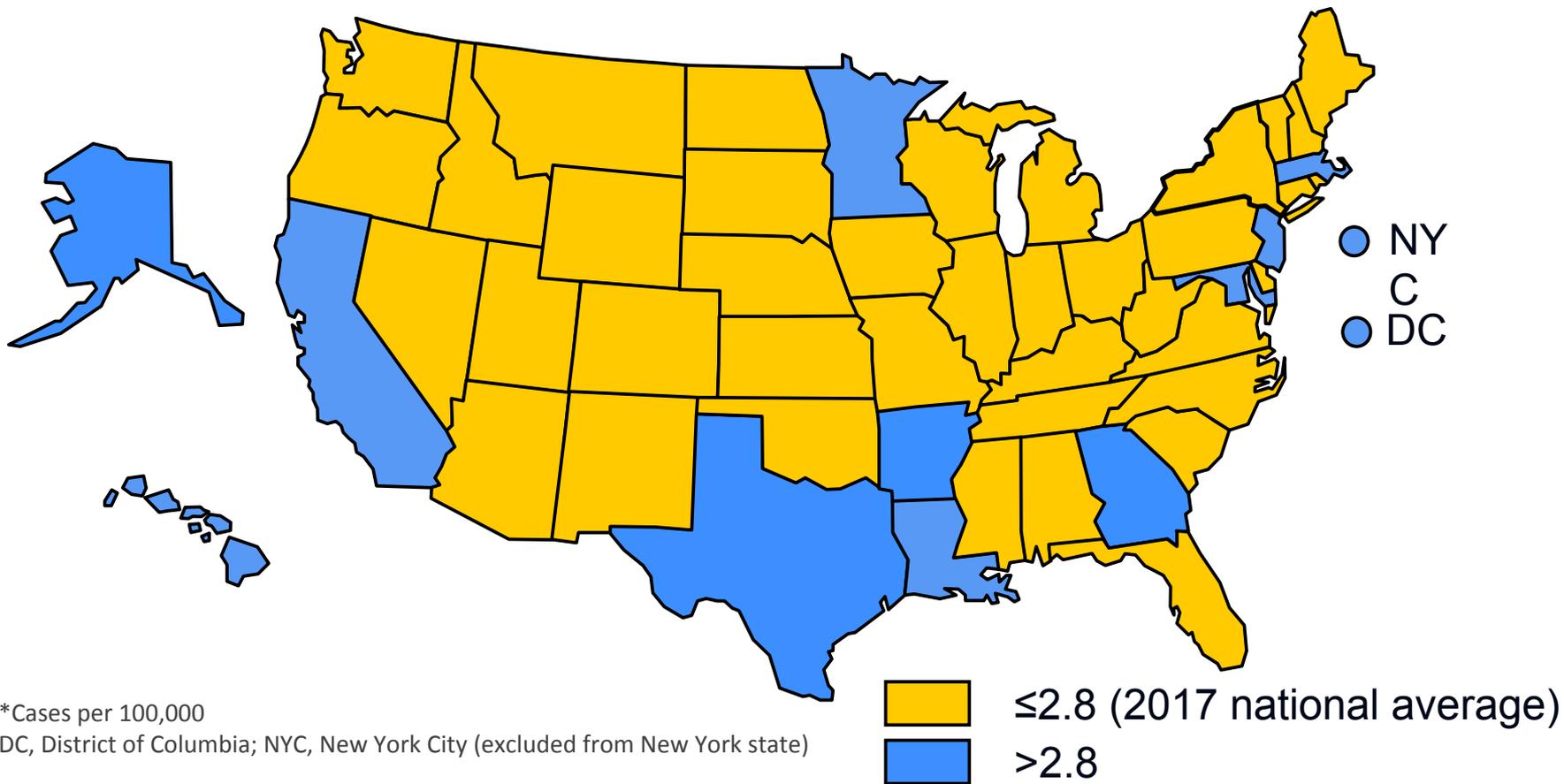
# Tuberculosis in the United States 1993–2017

National Tuberculosis Surveillance System

# Reported Tuberculosis (TB) Cases and Rates United States, 1993–2017



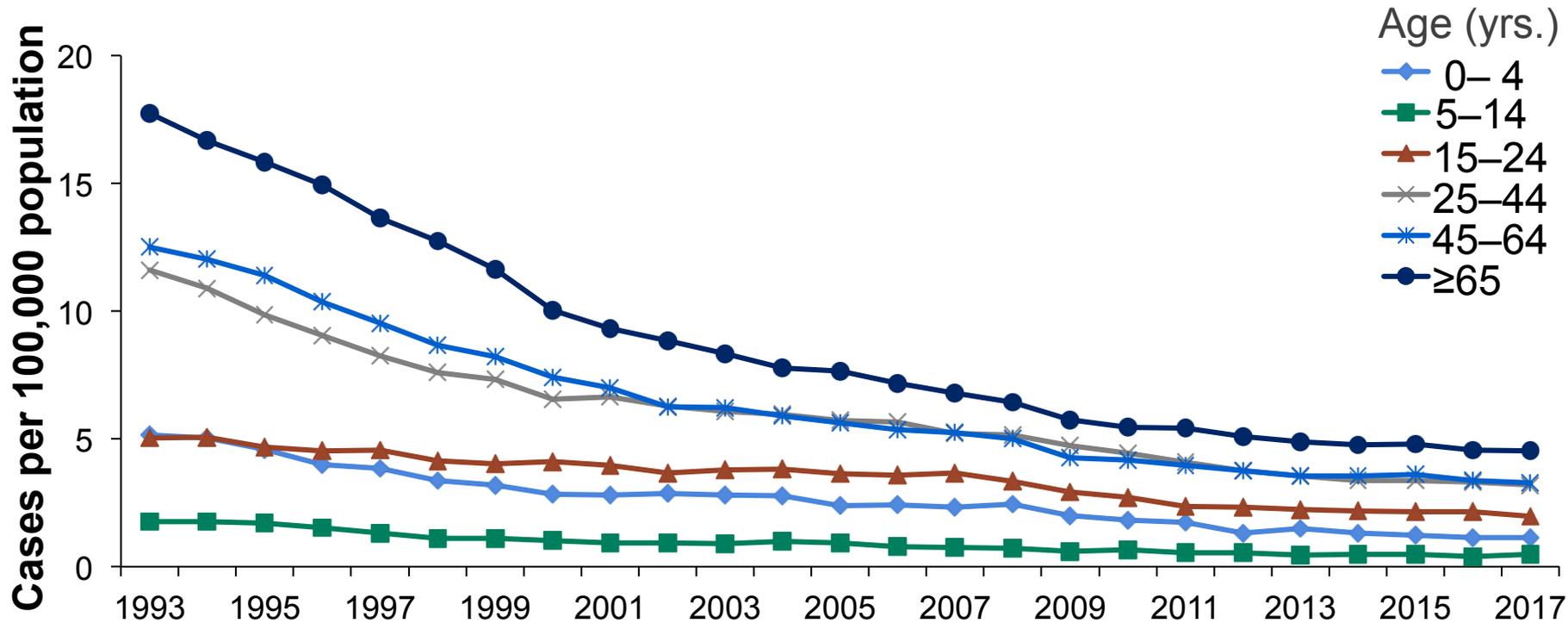
# TB Case Rates,\* United States, 2017



\*Cases per 100,000

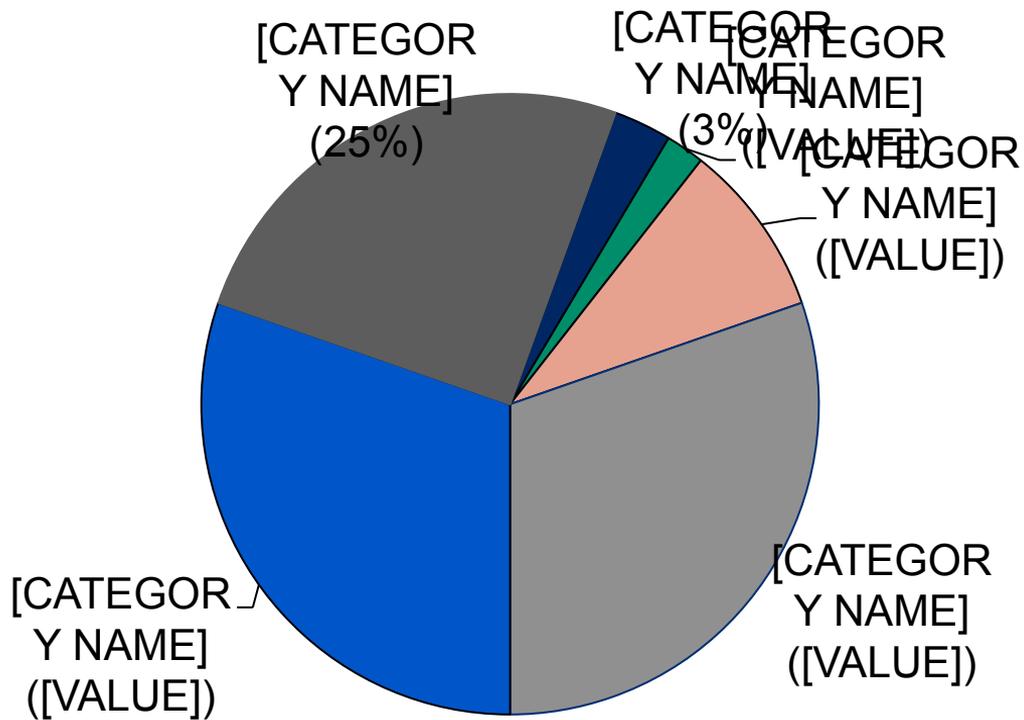
DC, District of Columbia; NYC, New York City (excluded from New York state)

# TB Case Rates\* by Age Group, United States, 1993–2017

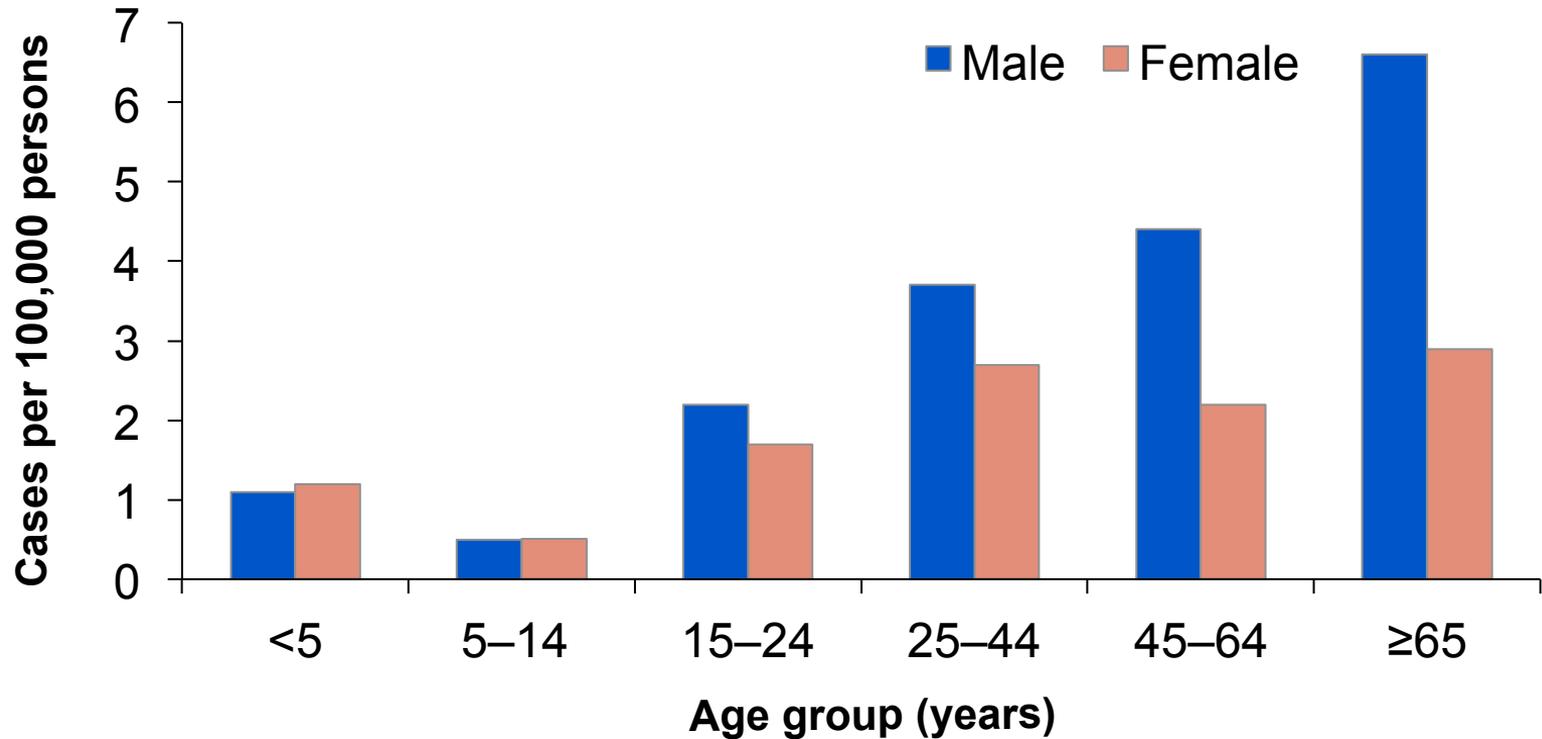


\*Cases per 100,000 population

# Reported TB Cases by Age Group, United States, 2017

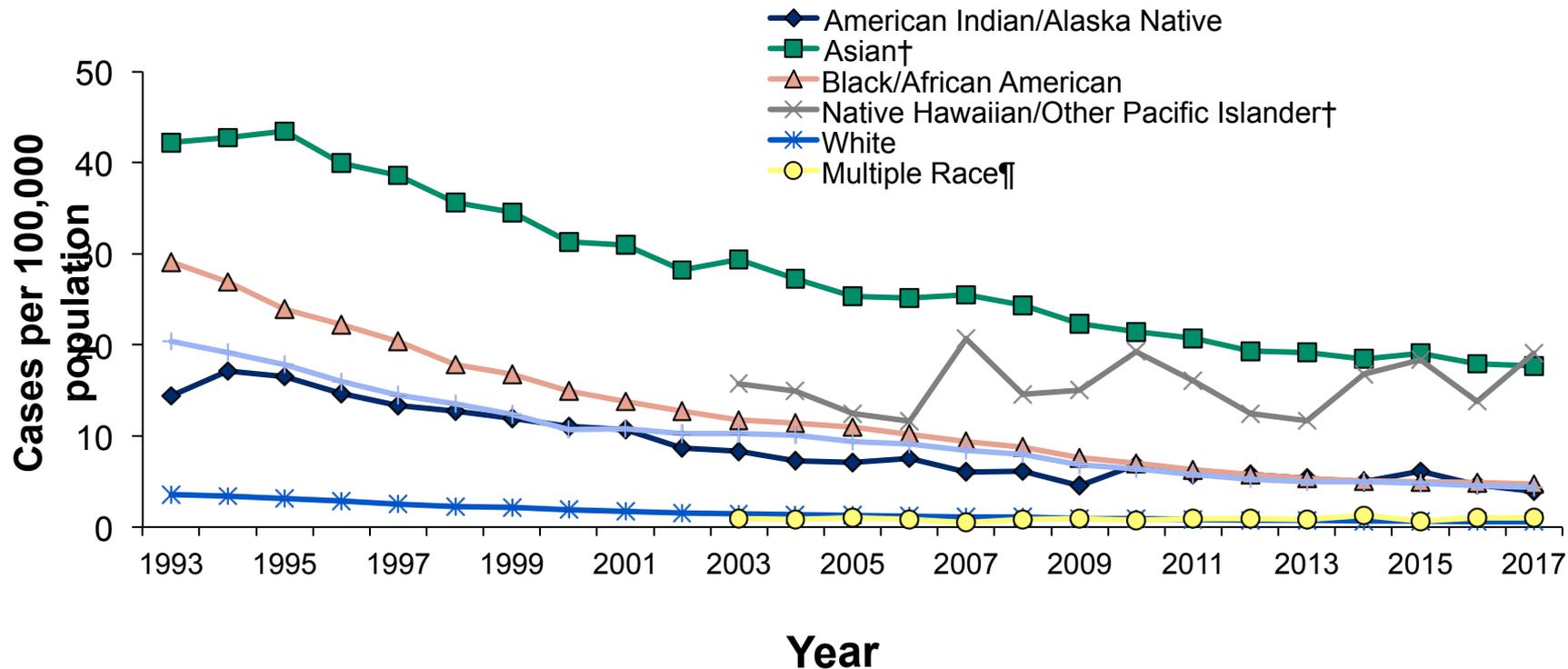


# TB Case Rates by Age Group and Sex, United States, 2017\*



\*Cases per 100,000 population

# TB Case Rates by Race/Ethnicity\* United States, 1993–2017

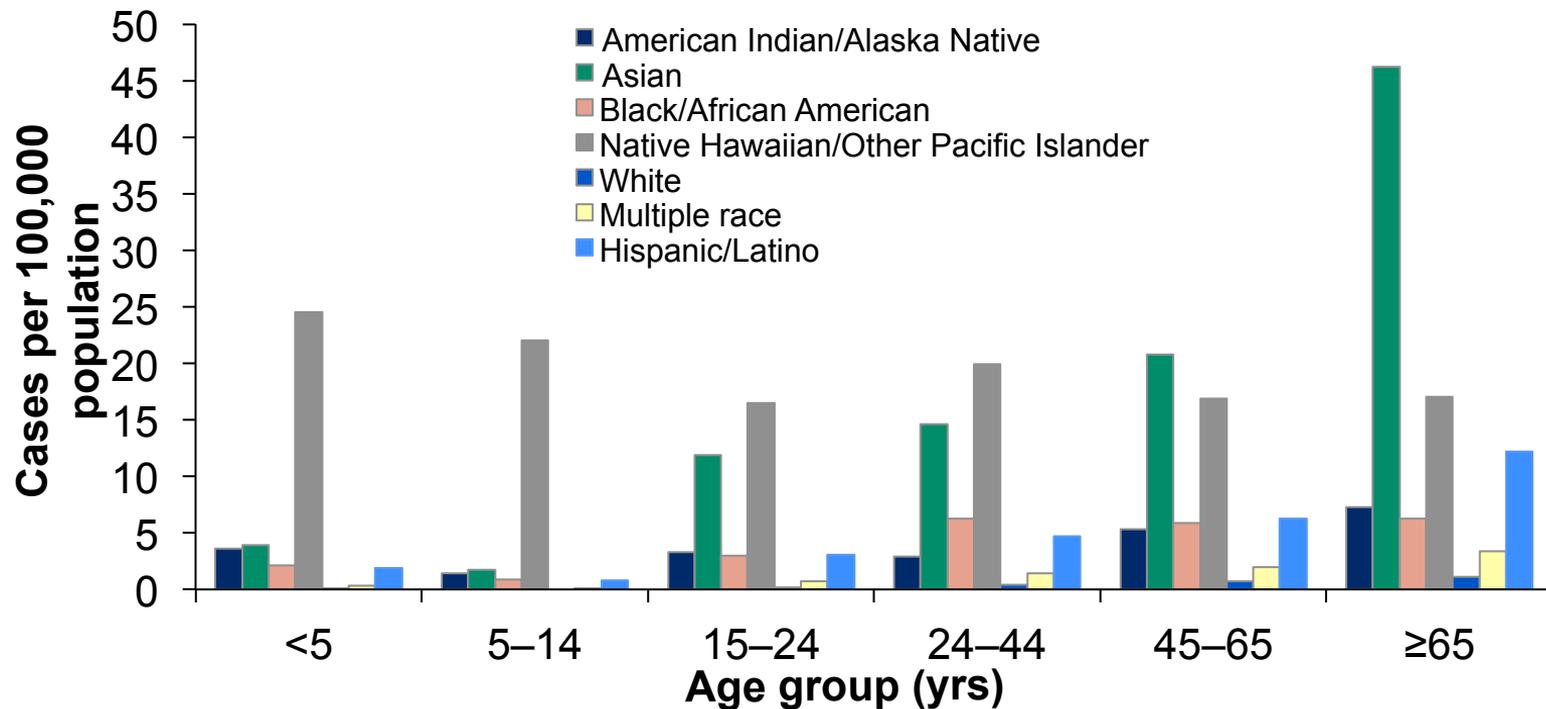


\* All races are non-Hispanic; multiple race indicates two or more races reported for a person, but does not include persons of Hispanic/Latino origin.

† Asian race category reporting includes Pacific Islander from 1993–2002; Native Hawaiian/Other Pacific Islander race first reported separately in 2003.

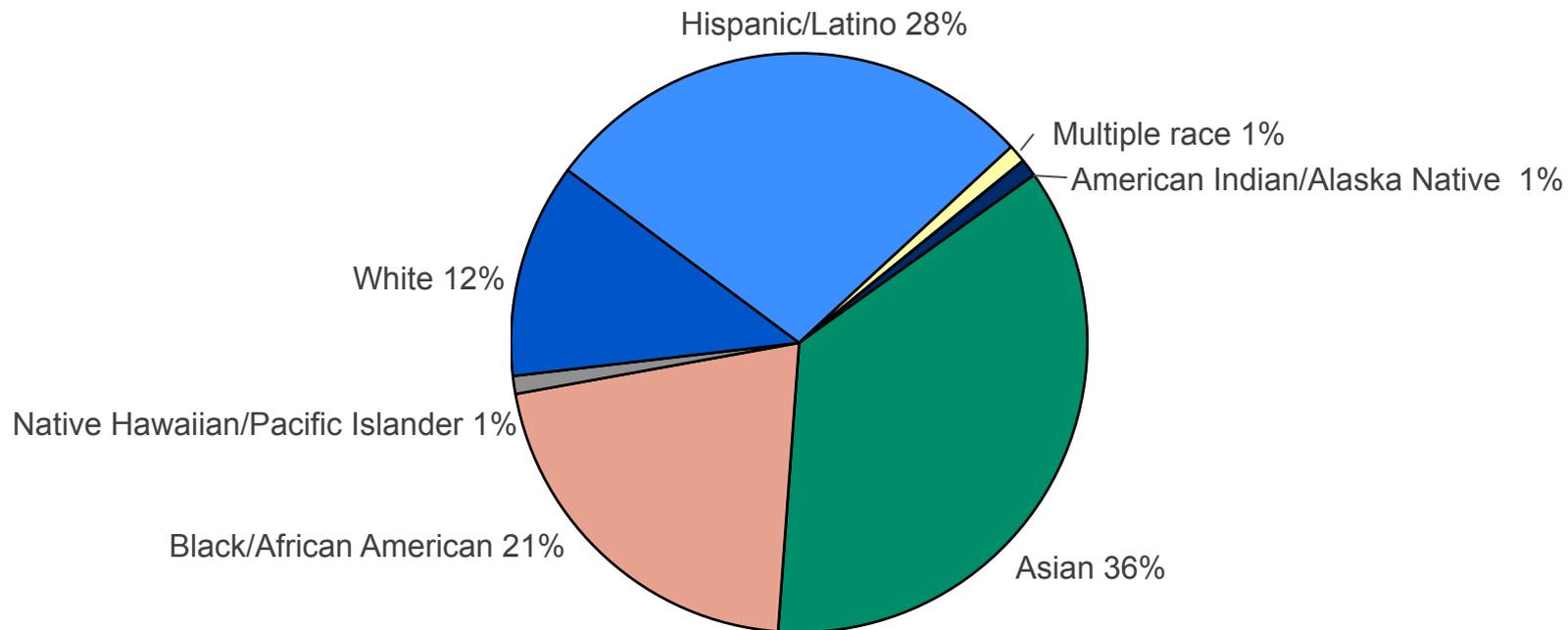
¶ Multiple race rates first reported in 2003.

# TB Case Rates by Age Group and Race/Ethnicity, United States, 2017\*



\* All races are non-Hispanic; multiple race indicates two or more races reported for a person, but does not include persons of Hispanic/Latino origin.

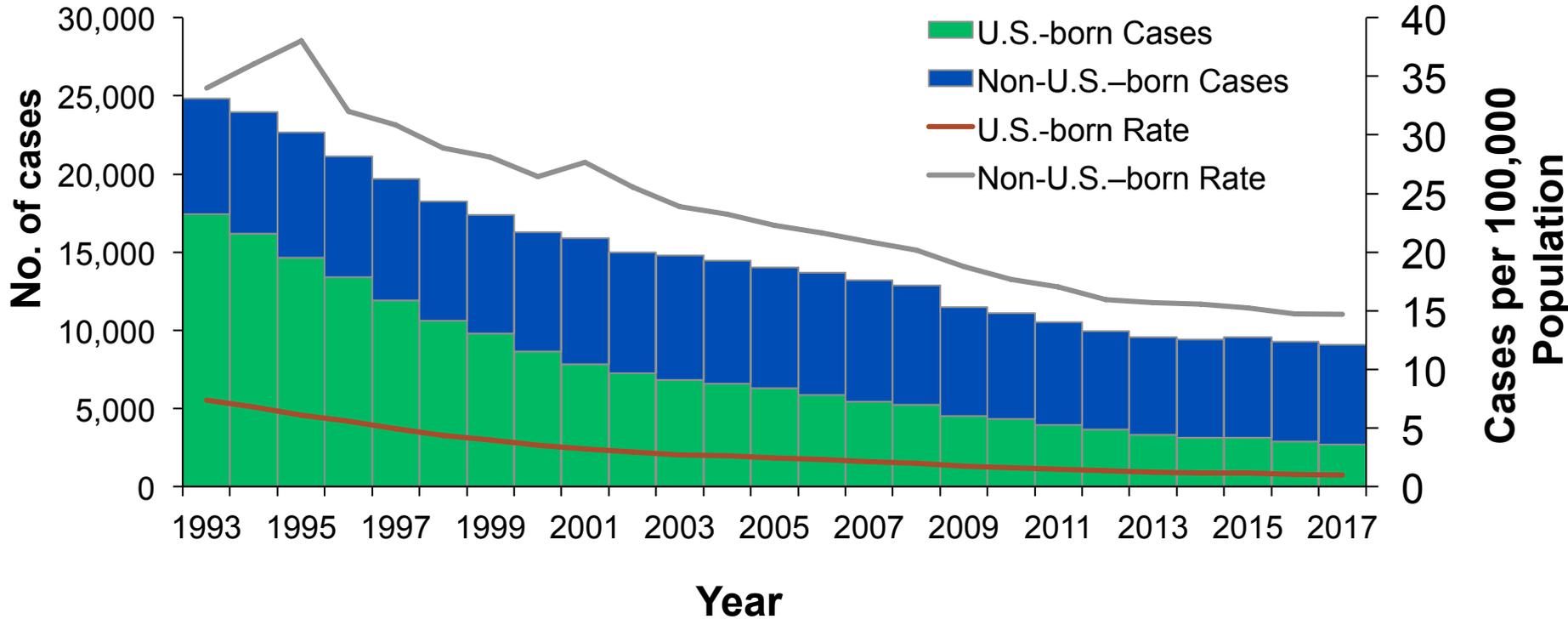
# Reported TB Cases by Race/Ethnicity,\* United States, 2017<sup>†</sup>



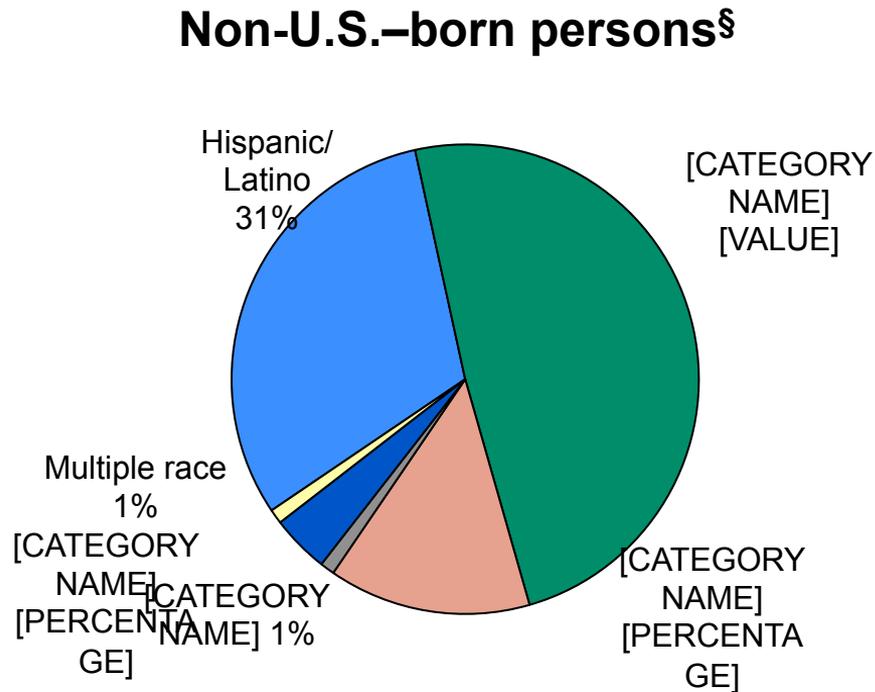
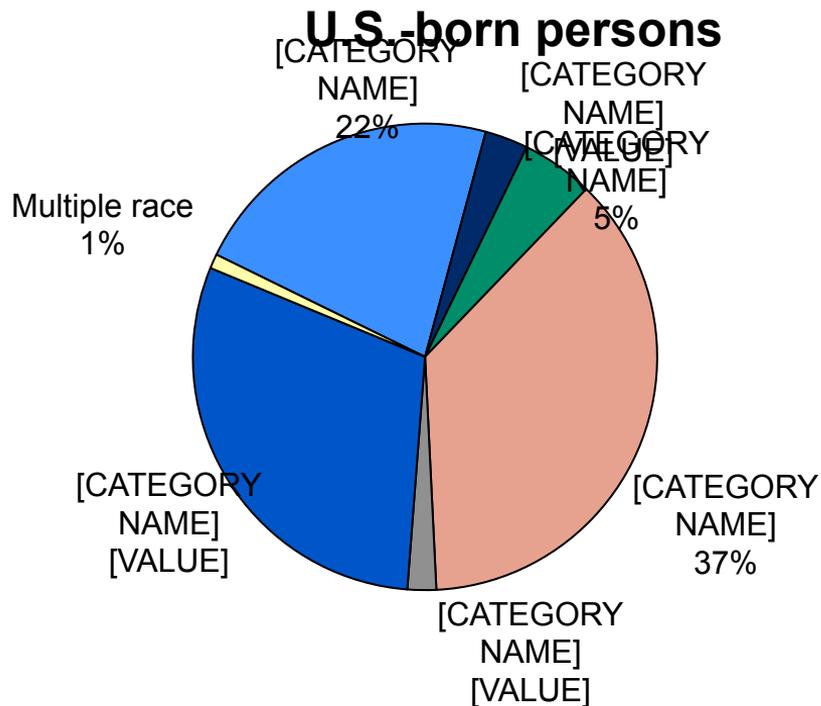
\* All races are non-Hispanic; multiple race indicates two or more races reported for a person, but does not include persons of Hispanic/Latino origin.

<sup>†</sup> Percentages are rounded.

# TB Cases and Rates Among U.S.-Born versus Non-U.S.-Born Persons, United States, 1993–2017



# Reported TB Cases by Origin and Race/Ethnicity\*, United States, 2017†



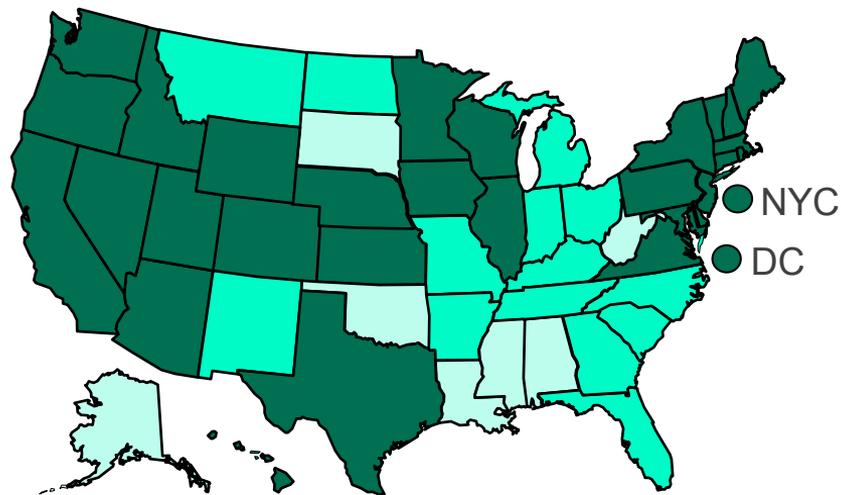
\* All races are non-Hispanic; multiple race indicates two or more races reported for a person, but does not include persons of Hispanic/Latino origin.

† Percentages are rounded.

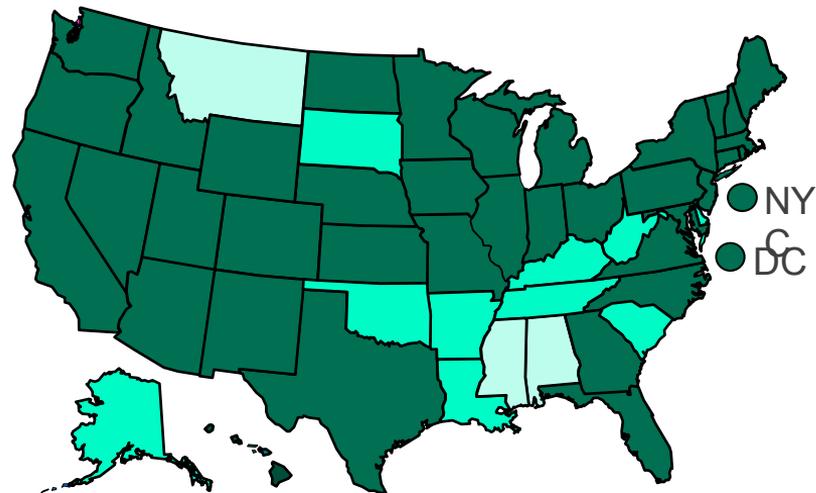
§ American Indian/Alaska Native accounted for <1% of cases among non-U.S.-born persons and are not shown.

# Percentage of Non-U.S.–Born Persons Among TB Cases, United States, 2007 and 2017

2007



2017

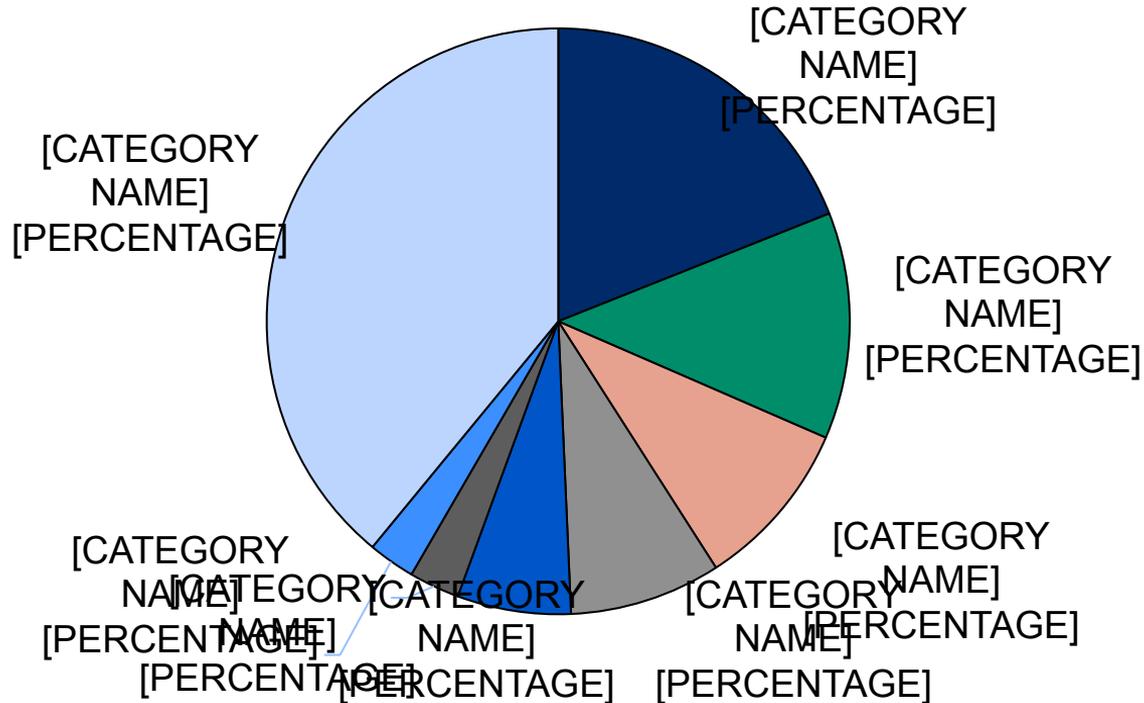


≤24%    25%–49%    ≥50%

DC, District of Columbia

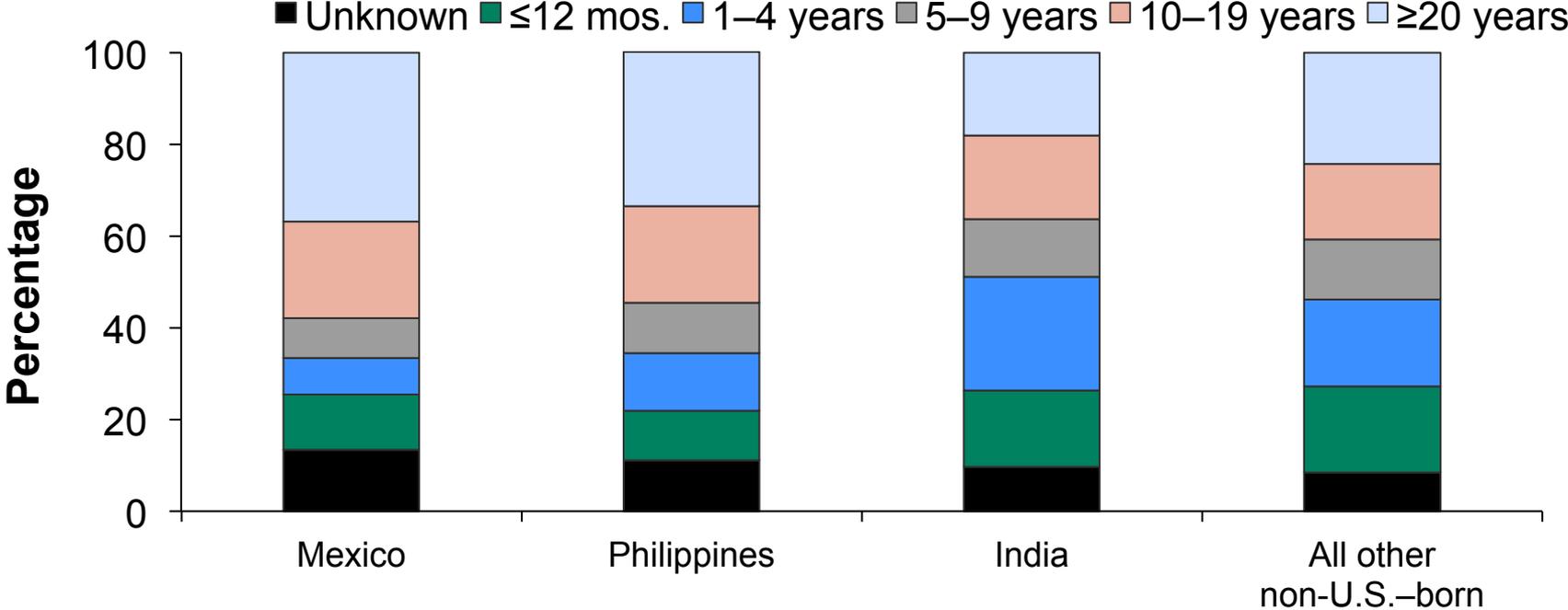
NYC, New York City (excluded from New York state)

# Countries of Birth Among Non-U.S.–Born Persons Reported with TB, United States, 2017

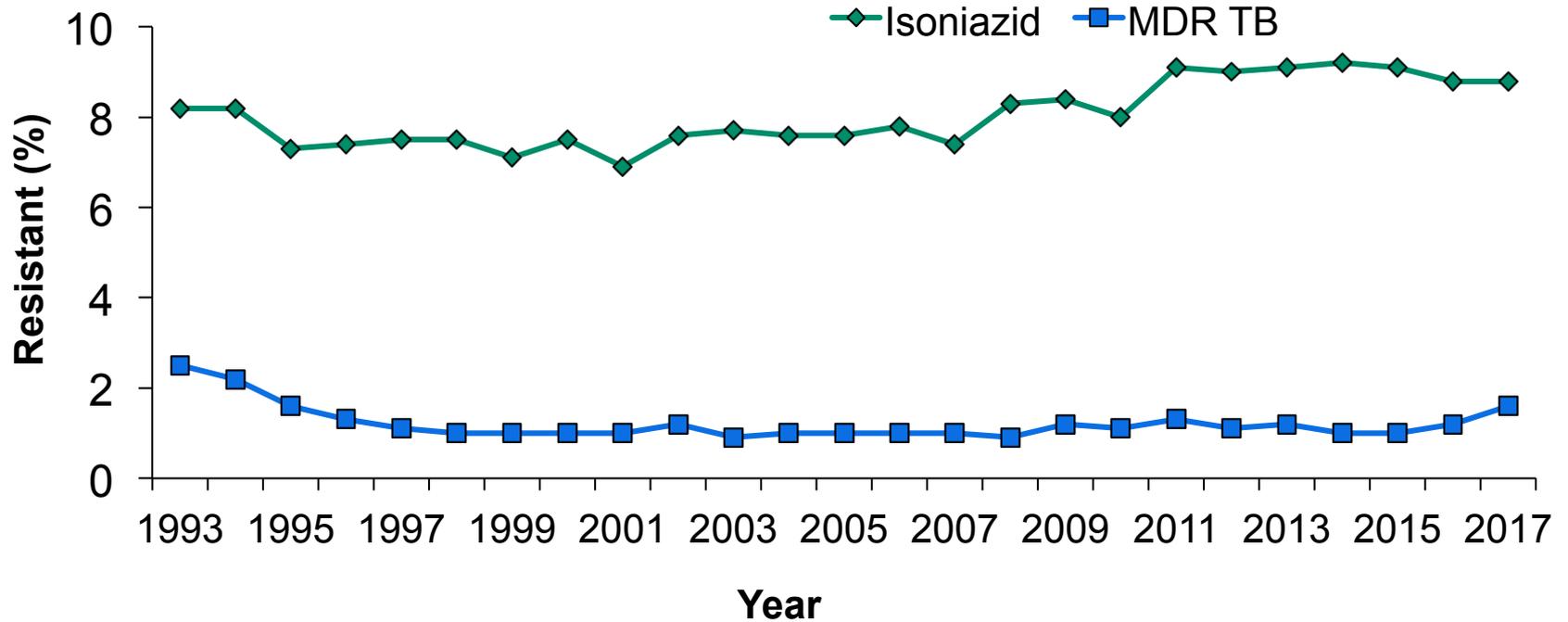


\*Percentages are rounded.

# Percentage of Non-U.S.–Born Persons with TB, by Time of Residence in U.S. Before Diagnosis, 2017



# Primary Anti-TB Drug Resistance, United States, 1993–2017\*



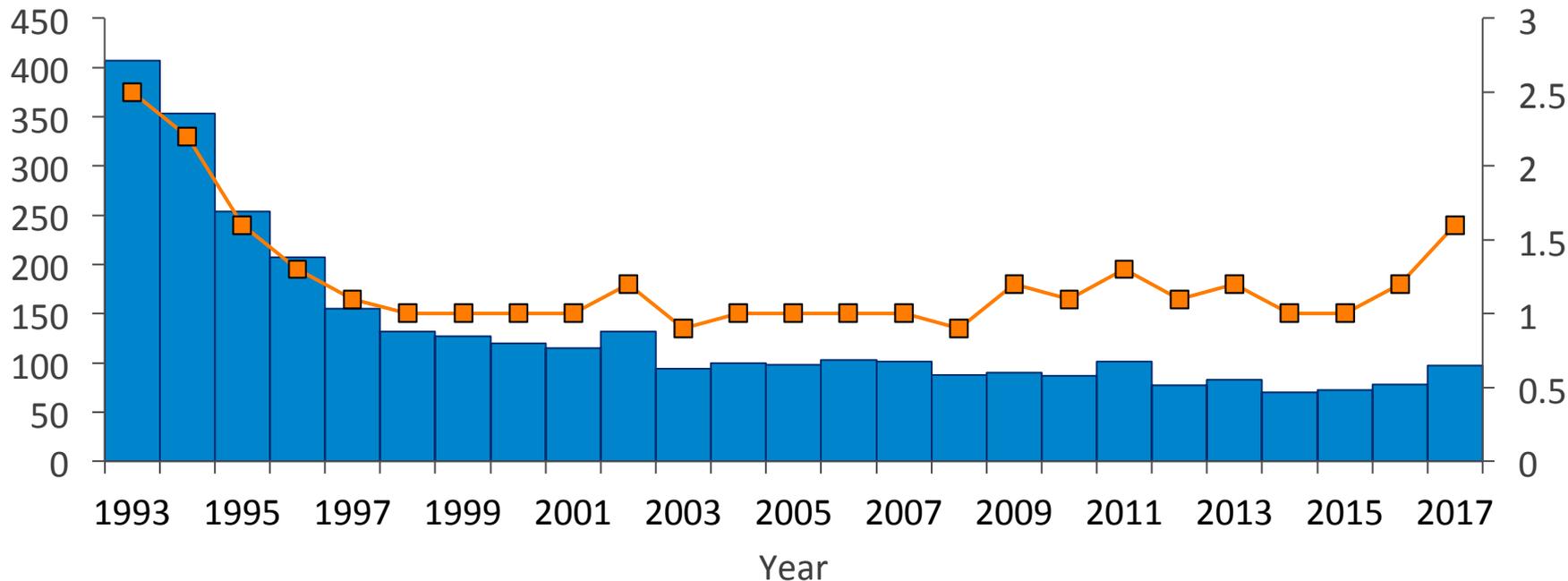
\* Based on initial isolates from persons with no prior history of TB; multidrug-resistant TB (MDR TB) is defined as resistance to at least isoniazid and rifampin.

# Primary MDR TB, United States, 1993–2017\*

No. of cases

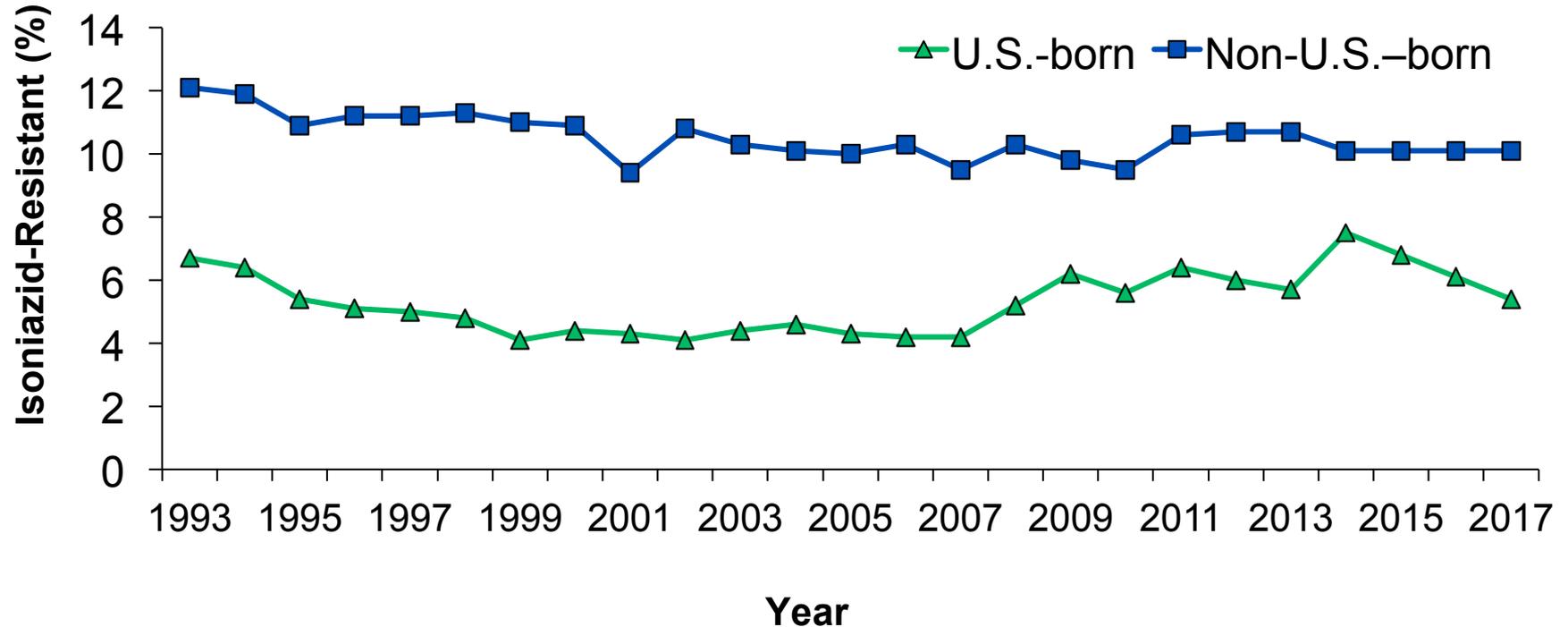
Percentage

■ Number of cases    ■ Percentage of total cases



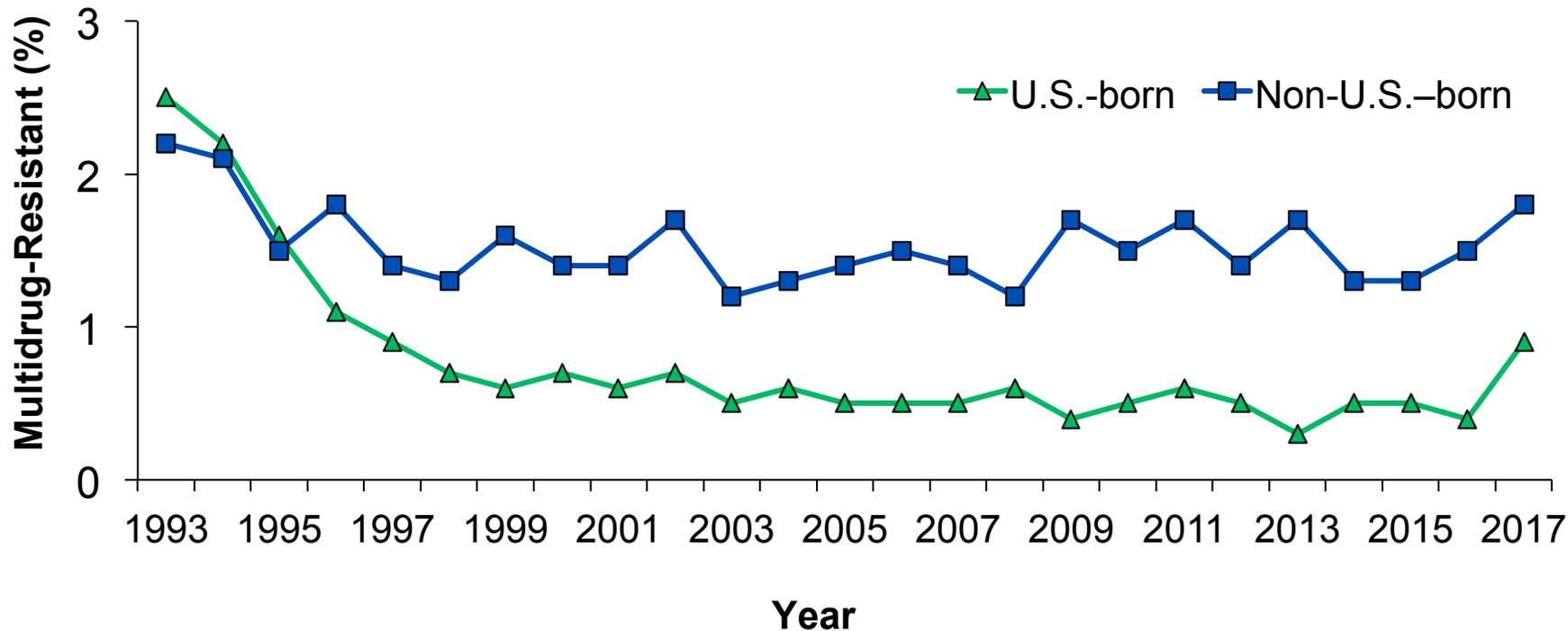
\* Based on initial isolates from persons with no prior history of TB; multidrug-resistant TB (MDR TB) is defined as resistance to at least isoniazid and rifampin.

# Primary Isoniazid Resistance Among U.S.-Born versus Non-U.S.-Born Persons, United States, 1993–2017\*



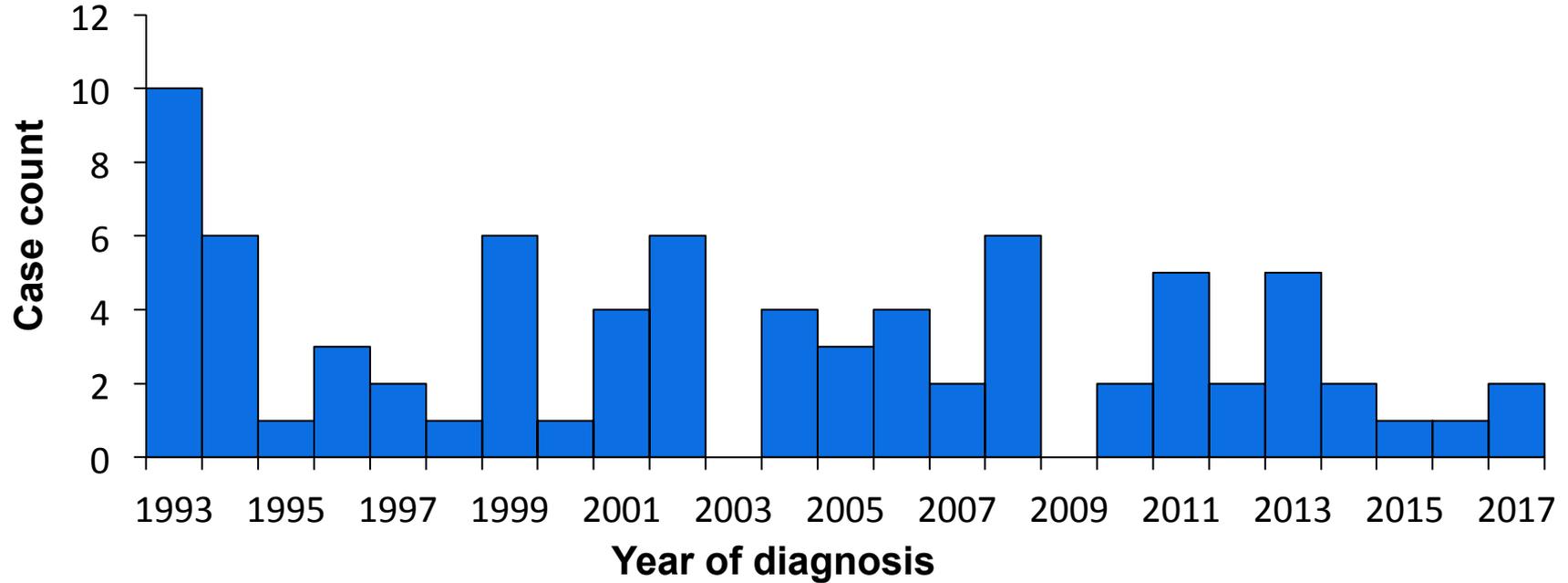
\* Based on initial isolates from persons with no prior history of TB.

# Primary MDR TB Among U.S.-Born versus Non-U.S.-Born Persons, United States, 1993–2017\*



\* Based on initial isolates from persons with no prior history of TB; multidrug-resistant TB (MDR TB) is defined as resistance to at least isoniazid and rifampin.

# XDR TB\* Case Count, Defined on Initial DST,† by Year, 1993–2017§

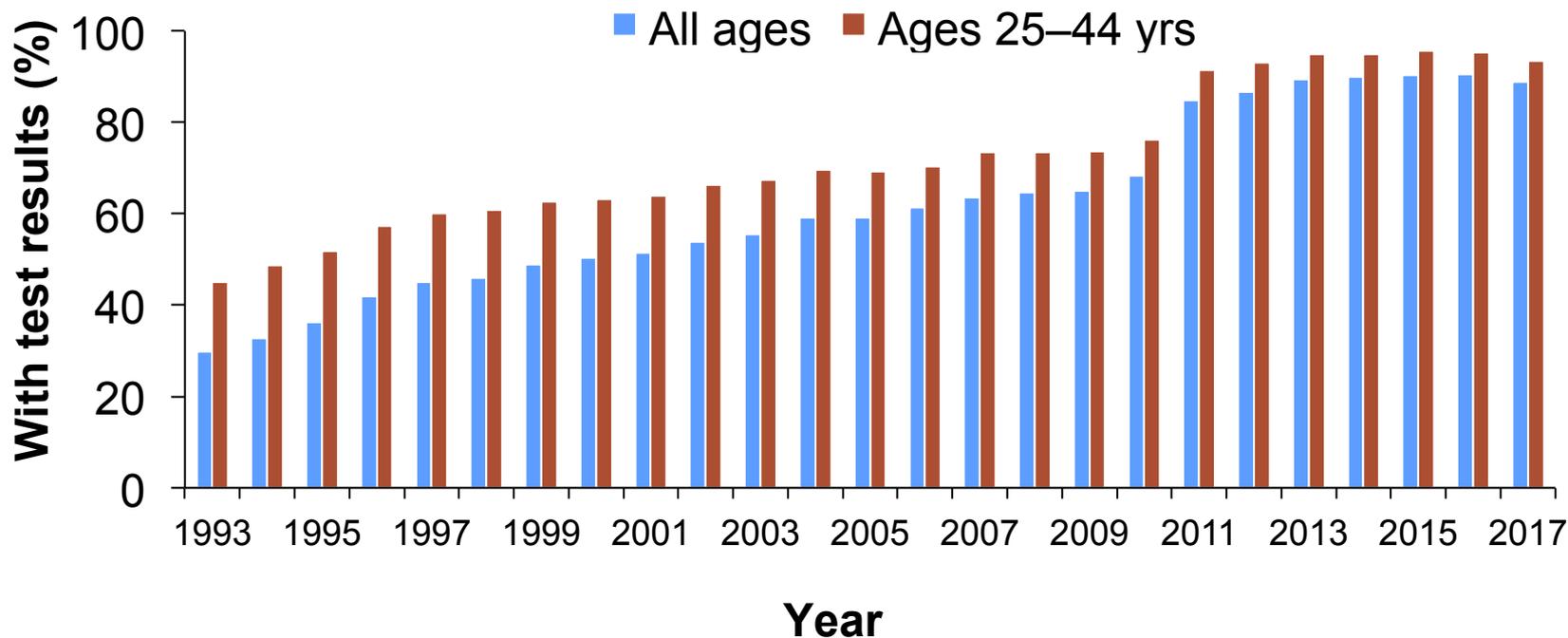


\* XDR TB, extensively drug-resistant TB.

† DST, drug susceptibility test.

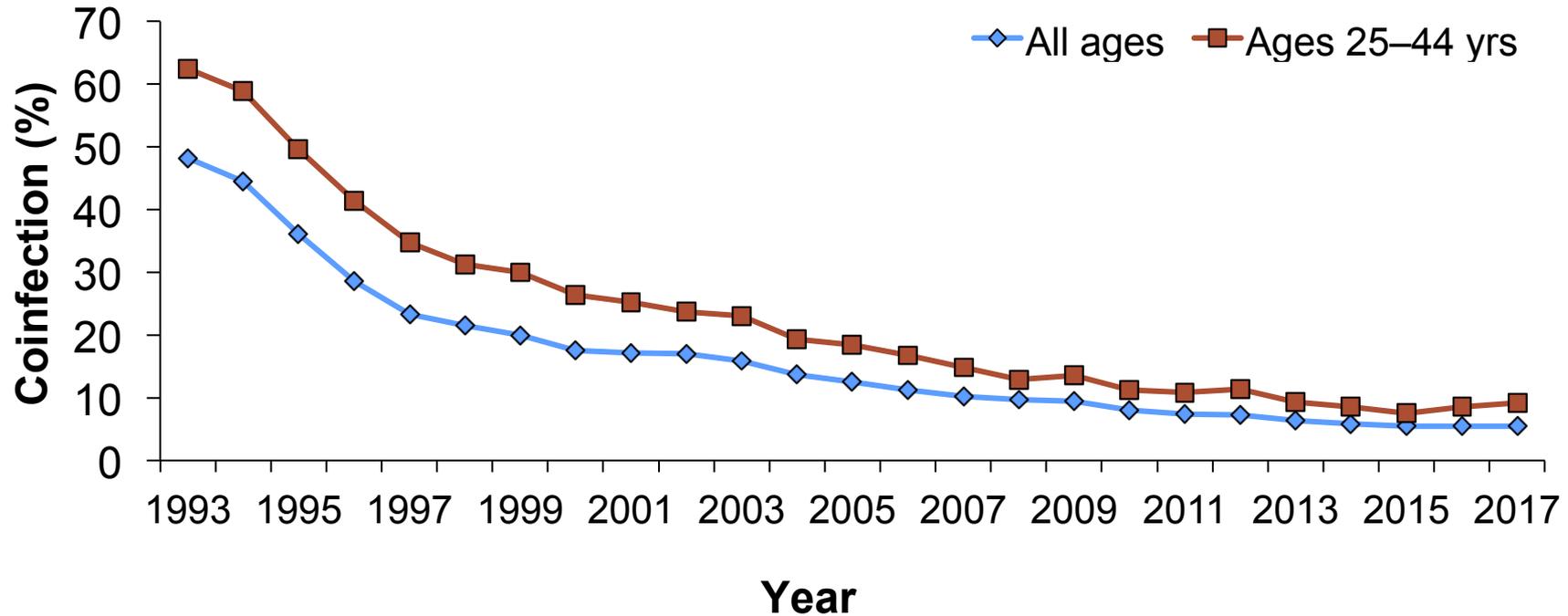
§ XDR TB is defined as resistance to isoniazid and rifampin, plus resistance to any fluoroquinolone and at least one of three injectable second-line anti-TB drugs.

# Reporting of HIV Test Results Among Persons with TB, by Age Group, United States, 1993–2017\*



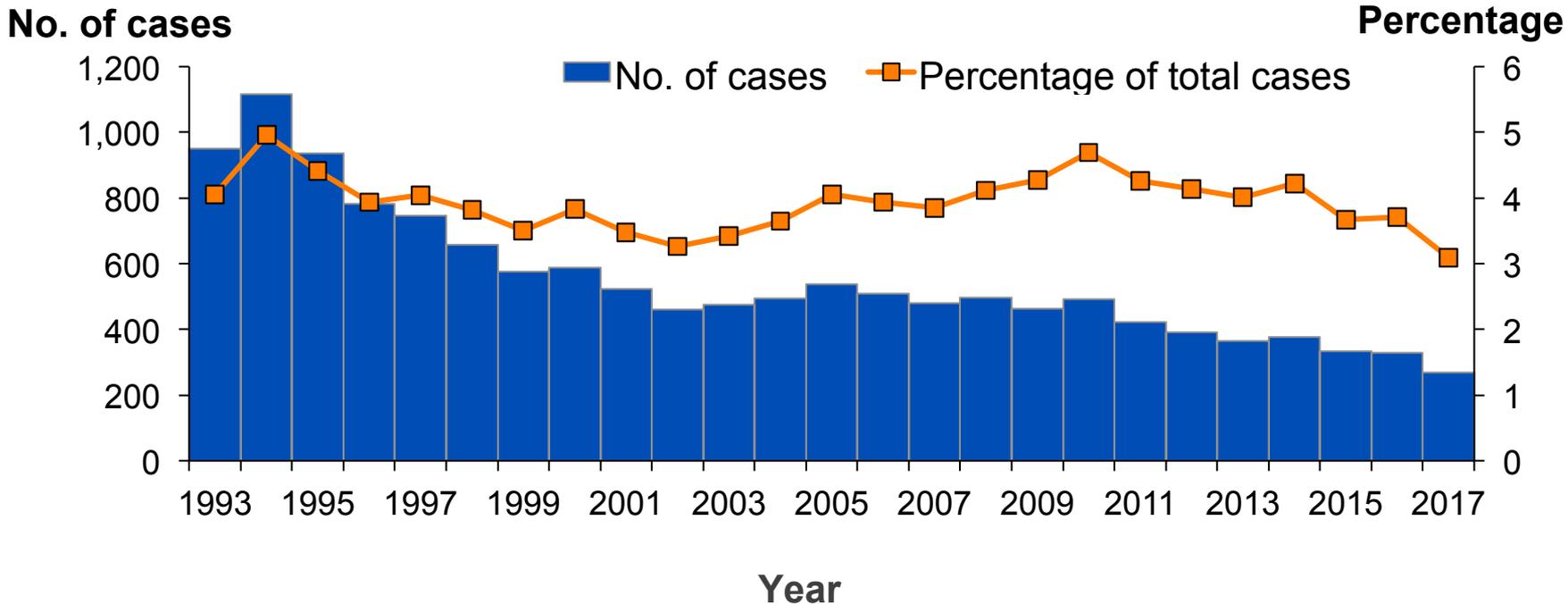
\* Includes persons with positive, negative, or indeterminate human immunodeficiency virus (HIV) test results and persons from California with co-diagnosis of TB and acquired immunodeficiency syndrome (AIDS) (co-diagnosis with AIDS in California was only for a period ending in 2004). Rhode Island did not report HIV test results for years 1993–1997. HIV test results for Vermont are not included for years 2007–2013. HIV test results for California are not included for years 2005–2010.

# Estimated HIV Coinfection Among Persons Reported with TB, United States, 1993–2017\*



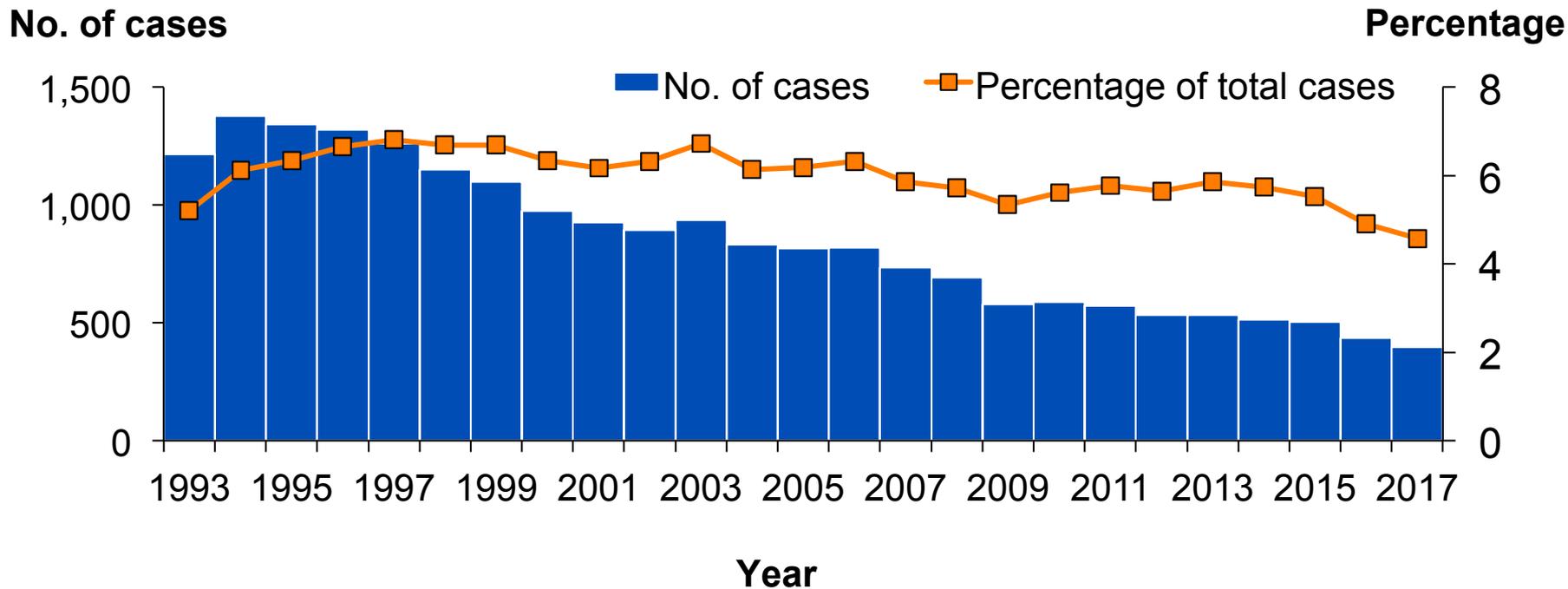
\* Minimum estimates are based on reported HIV-positive status among all TB patients in the age group.

# TB Cases Among Persons Ages $\geq 15$ Years Residing in Correctional Facilities, United States, 1993–2017\*



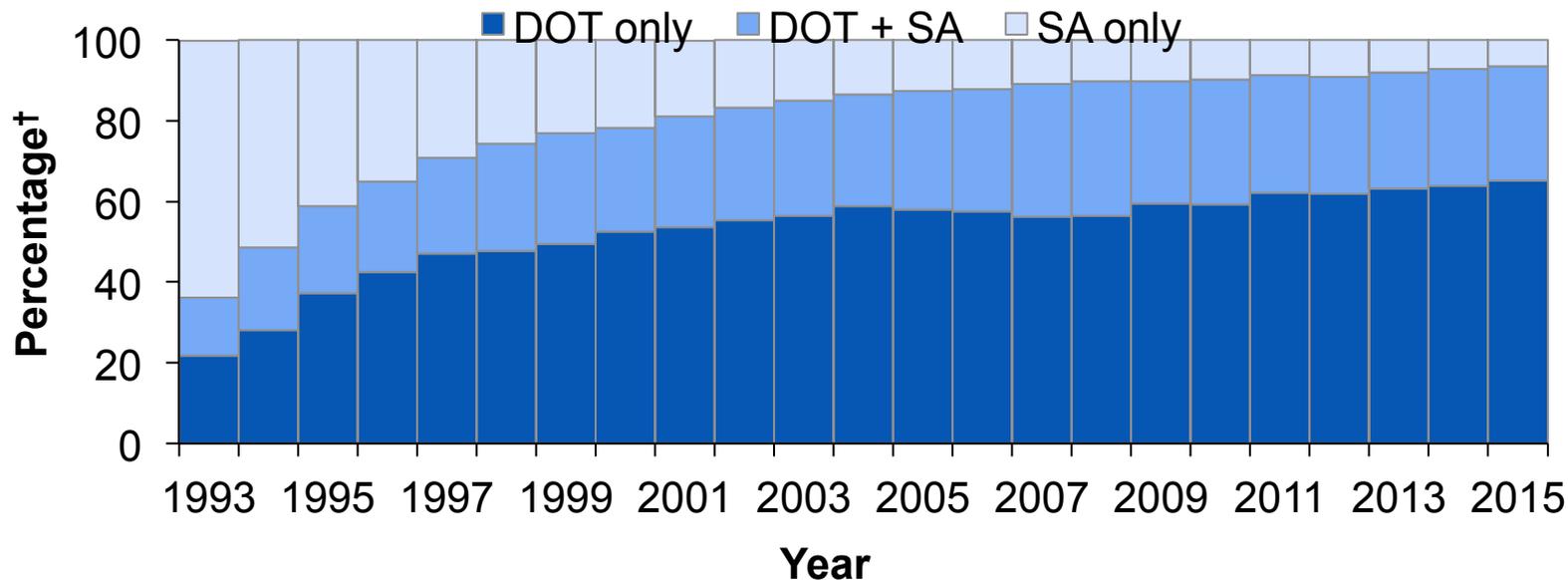
\* Resident of correctional facility at time of TB diagnosis.

# TB Cases Reported Among Homeless Persons During the 12 Months Before Diagnosis, Ages $\geq 15$ Years, United States, 1993–2017\*



\* Homeless during the 12 months before TB diagnosis.

# Mode of Treatment Administration Among Persons Reported with TB, United States, 1993–2015\*

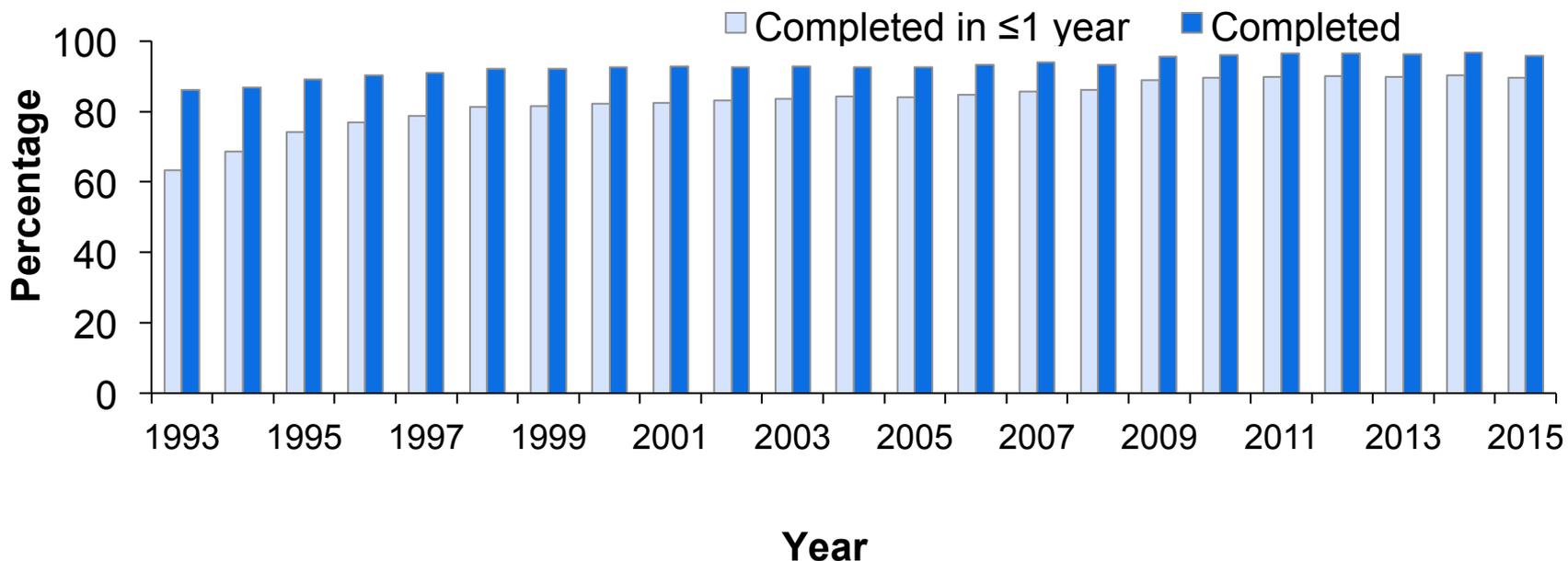


DOT, directly observed therapy; SA, self-administered therapy.

\* Data available through 2015 only.

† Percentage of total cases among persons alive at diagnosis, with an initial regimen of one or more drugs prescribed and excluding cases with unknown mode of treatment administration.

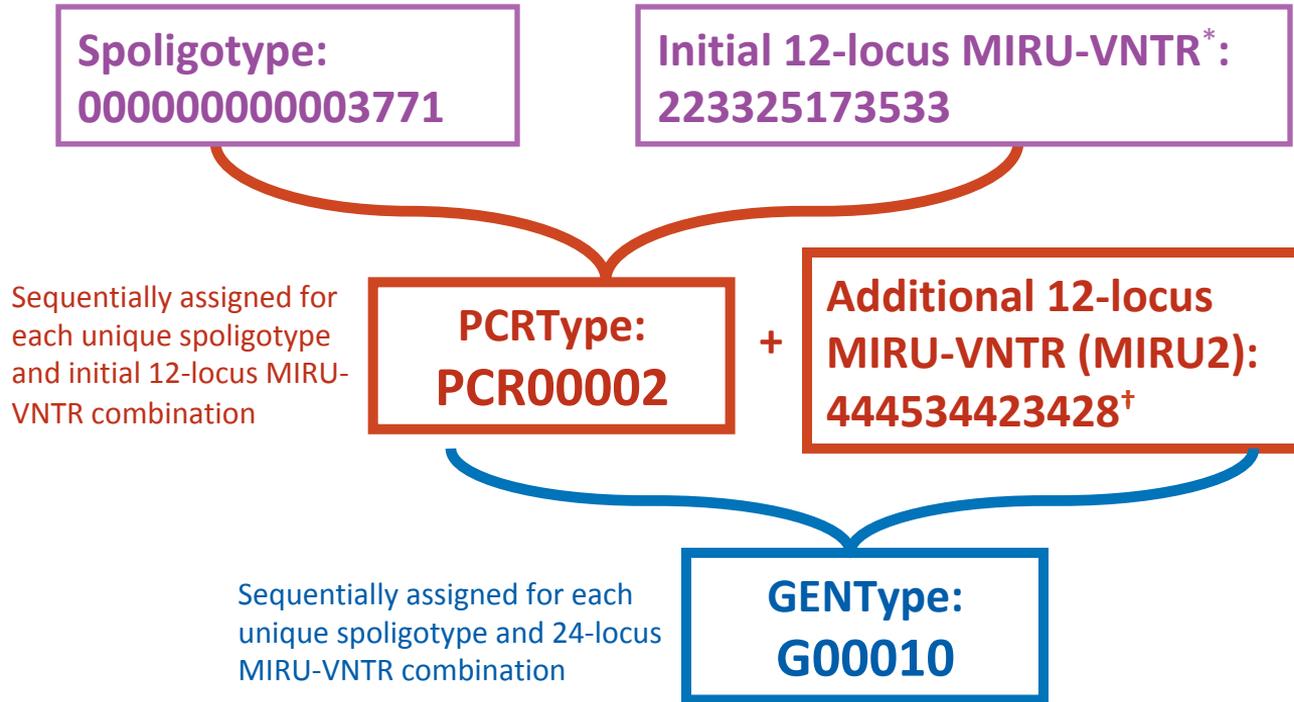
# Completion of TB Treatment Therapy, United States, 1993–2015\*



\* Data available through 2015 only.

**Note:** Includes persons alive at diagnosis, with initial drug regimen of one or more drugs prescribed, who did not die within one year of initiating treatment; excludes persons with initial rifampin-resistant isolate, patients with bone and joint disease, meningeal disease, or disease of the central nervous system, or pediatric patients (ages 0–14 years) with miliary disease or positive blood culture or a positive nucleic acid amplification test on a blood specimen, and those who moved out of the country within one year of initiating treatment.

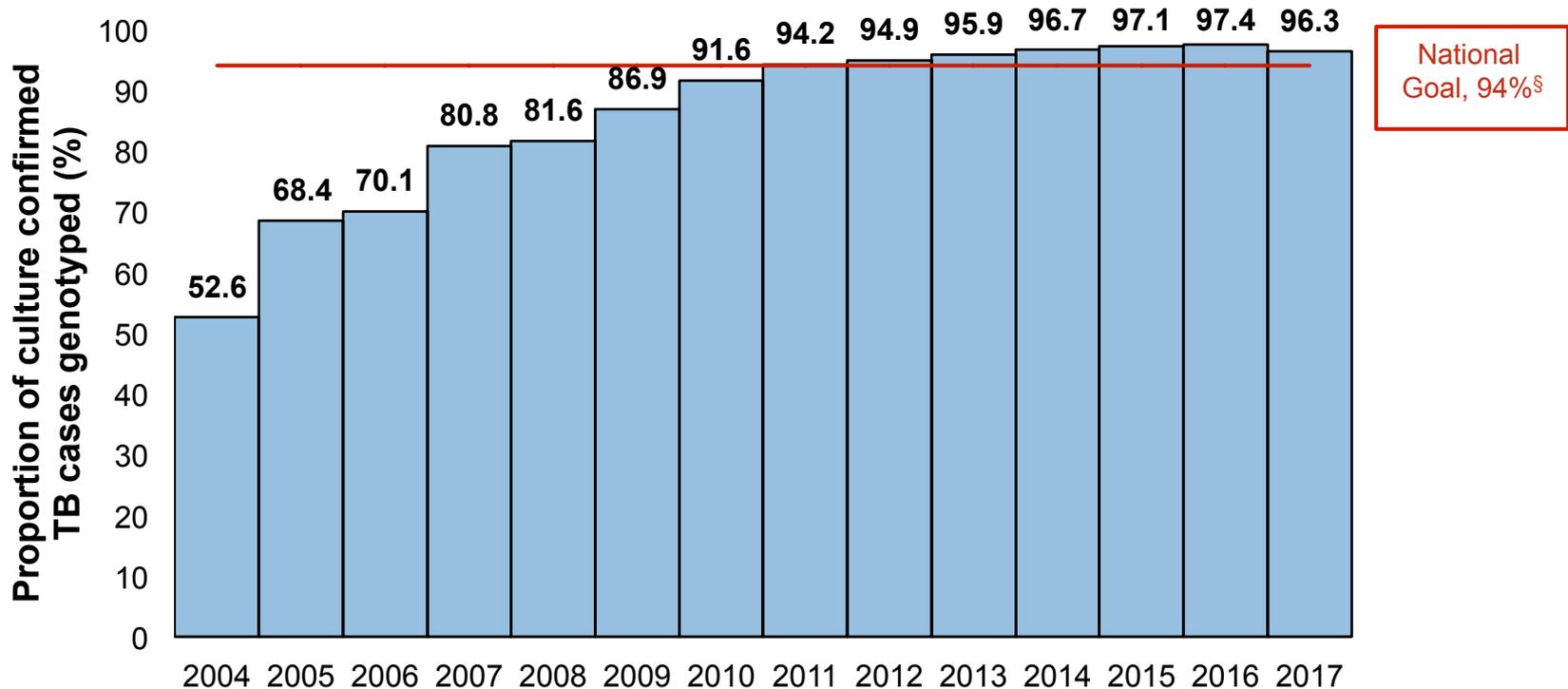
# Definition for Tuberculosis Genotyping in the United States



\* Mycobacterial interspersed repetitive unit–variable number tandem repeat.

<sup>†</sup> The complete set of 24 loci is referred to as 24-locus MIRU-VNTR and is used for GENType designation for genotype in the United States.

# National Tuberculosis Genotyping Surveillance Coverage\* by Year: United States†, 2004–2017

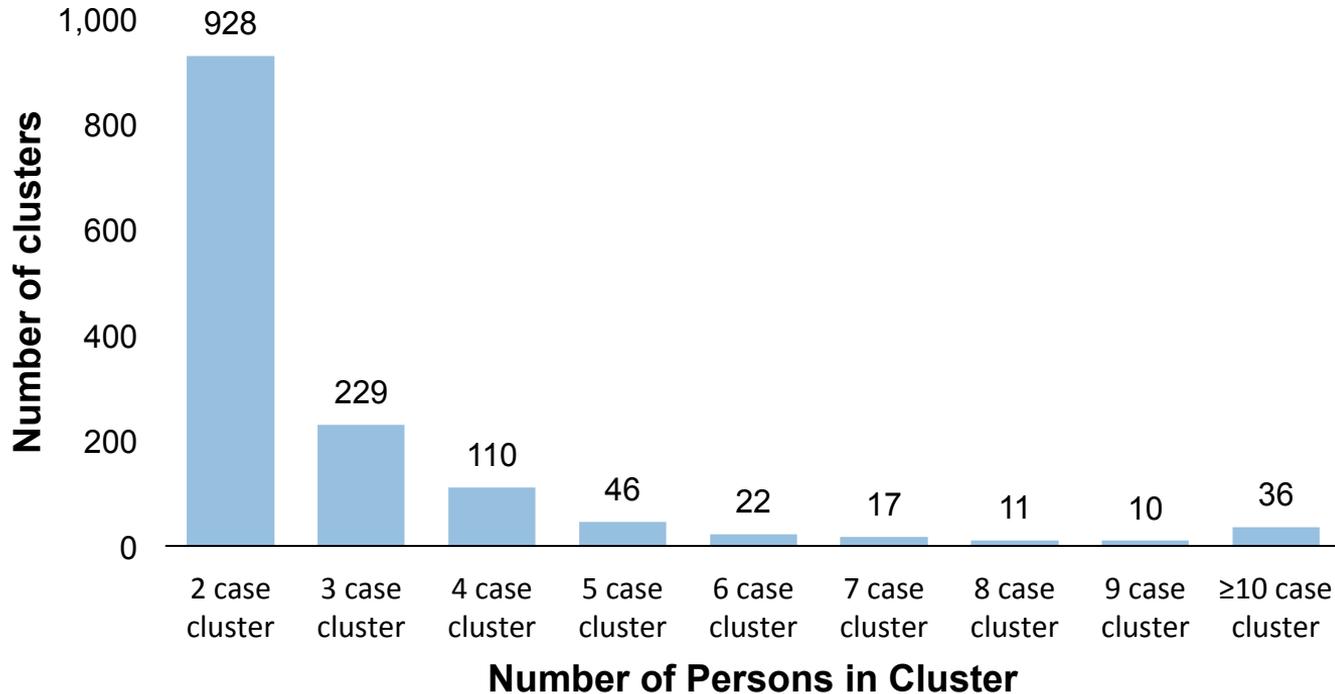


\* The proportion of positive cultures with at least one genotyped isolate.

† Includes 50 states and the District of Columbia.

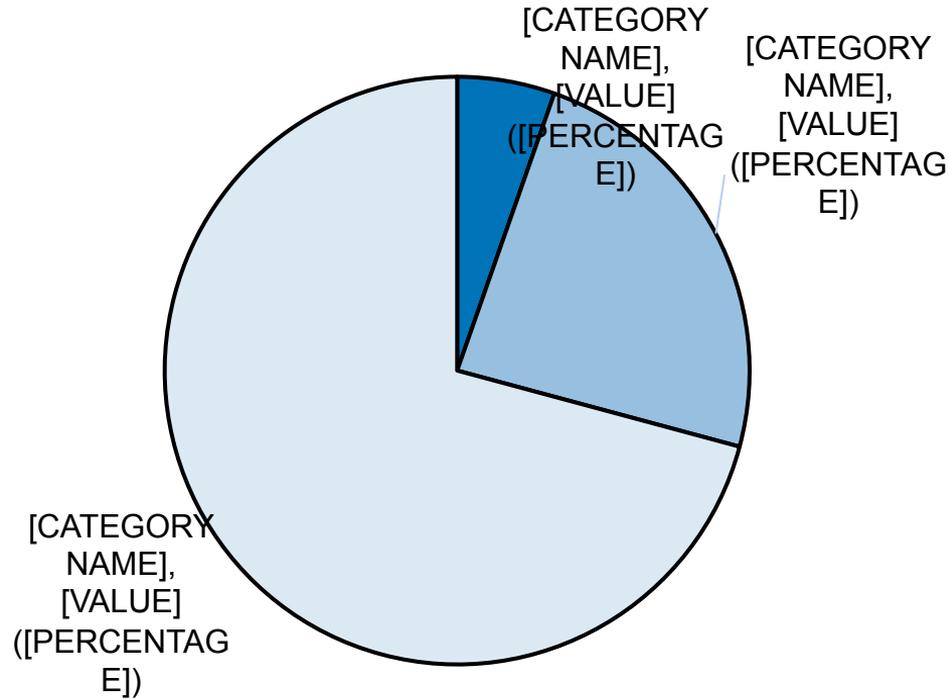
§ For the year 2020, the national goal for TB genotyping surveillance coverage will change to 100%.

# Number of County-based Tuberculosis Genotype Clusters\* by Cluster Size, United States, 2015–2017



\*Genotype cluster is defined as two or more cases with matching spoligotype and 24-locus MIRU-VNTR (GENType) within a county during the specified 3-year time period.

# Tuberculosis Genotype Clusters by TB GIMS\* Alert Levels†, United States, 2015–2017



\*Tuberculosis Genotyping Information Management System

†Alert level is determined by the log likelihood ratio statistic (LLR) for a given cluster, identifying higher than expected geospatial concentrations for a TB genotype cluster in a specific county, compared to the national distribution of that genotype; TB GIMS generates alert level notifications based on this statistic: “No alert” is indicated if LLR is between 0 – <5, “medium” is for LLR of 5 – <10 and “high” alert is for clusters with LLR ≥ 10.

## **Division of Tuberculosis Elimination**

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Atlanta, GA 30329

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The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.

